

### **REMARKS**

Claims 1 – 43 are pending. Claims 1 – 15 stand allowed. Claims 22 – 29 and 37 – 43 stand rejected under 35 U.S.C. § 112, 2<sup>nd</sup> ¶. Claims 16 – 43 stand rejected under 35 U.S.C. § 103(a) as obvious in view of a suggested combination of Rhodes (U.S. Patent No. 6,307,243), Li (U.S. Patent No. 6,249,034) and Fan (U.S. Patent No. 6,274,917).

Applicant respectfully traverses.

#### ***Amendments to the Claims***

Claims 8 and 15 were amended in the original submitted reissue application to remove the language “the steps of.” Subsequent listings of these claims erroneously excluded this amendment. The listing above correctly reflects such language as deleted.

Claims 22 and 37 have both been amended (twice each) to reference that the respective semiconductor structures include “a unit pixel area and a pad area.” Support may be found at column 2, line 42 et seq. of U.S. Patent No. 6,369,417, as well as other places in the written description, claims, and drawings.

Claim 22 has been amended to remove the language of “the steps of”; claim 23 has been amended to remove the word “step”; and claim 31 has been amended to remove a typographical error – the word “such” – at end of the third line. These amendments are supported by the ‘417 patent.

No new matter has been added.

#### ***Claim Rejections – 35 USC § 112***

Applicant traverses the antecedent basis rejections of claims 22 and 37 in light of the amendments above. Removal is respectfully requested.

***Claim Rejections – 35 USC § 103***

Claims 16 – 43 are rejected under 35 U.S.C. § 103(a) over Rhodes (USPN 6,307,243) in view of Li (USPN 6,249,034) and Fan (USPN 6,247,917). Applicant traverses the rejection for at least the following outlined reasons.

Rhodes, Li and Fan do not disclose, teach or suggest a CMOS image sensor comprising an oxide layer formed to cover a resulting structure in both the unit pixel area and the pad area. Moreover, none of the cited art provides a method that includes forming an oxide layer to cover a resulting structure in both the unit pixel area and the pad area or forming such an oxide layer after forming a micro-lens. For these reasons alone, independent claims 16, 22, 30, and 37 are in condition for allowance.

The office action suggests that it would have been obvious to form an oxide layer as taught by Rhodes over a resulting structure in the unit pixel area and the pad area in order to protect the surface of the CMOS image sensor as suggested by Fan.

However, as previously pointed out, Rhodes simply discloses an insulation layer 72 covering a refractive layer 70 to effectively expand the area of a pixel cell 28 covered by a refractive surface. Rhodes uses this insulation layer to improve the fill factor of the pixel cell 28. ‘243 patent 4:66 ~ 5:5. Accordingly, it would not have been obvious to one of ordinary skill in the art to combine the features of Rhodes with those of Fan to arrive at the recited subject matter. Fan discloses only general passivation layers over a semiconductor structure, while Rhodes does not extend its oxide layer over both a unit pixel area and a pad area. Instead, Rhodes seeks only to cover the refractive surface to improve pixel fill factor. As the office action points to nothing in the cited art as teaching an oxide layer formed to cover a resulting structure in both the unit pixel area and the pad area, *a fortiori*, no combination of the cited can be said to establish such subject matter.

The office action responds to applicant’s previous remarks by stating that the one cannot show non-obviousness by attacking references individually where the rejections are based on combinations of references. Applicant responds in two ways. First, applicant has shown that none of the three references, taken alone or in combination, teach an oxide layer formed to cover a resulting structure in both the unit pixel area and the pad area. For this reason alone, the

office action cannot establish *prima facie* obviousness. Second, the office action has not met its burden to clearly articulate why it is argued that the claimed invention would have been obvious.

In *KSR International Co. v. Teleflex Inc.*, the Supreme Court (quoting *In re Kahn*) reinforces that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR v. Teleflex*, 550 U.S. 705, 722 (2007). Applying *KSR*, the Patent Office requires that “the key to supporting any rejection under 35 U.S.C. 103 is the **clear articulation** of the reason(s) why the claimed invention would have been obvious.” Federal Register, Vol. 72, No. 195, Wednesday, October 10, 2007, Notices, page 57528 (emphasis added). Seven rationales (A) – (G) for showing obviousness are provided. MPEP 2414; Federal Register, Vol. 72, No. 195, Wednesday, October 10, 2007, Notices, page 57529. In the present paper, the office action applies none of these rationales – an omission particularly glaring given that no prior art reference teaches or suggests forming an oxide layer over both a unit pixel area and a pad area.

In light of the foregoing, applicant respectfully asserts that the prior art rejections are legally improper and must be withdrawn.

### ***Conclusion***

For at least the foregoing outlined reasons, applicant believes that all pending claims are now patentable over the cited references issued by the Examiner. Timely confirmation of the same is respectfully requested.

Dated: April 8, 2008

Respectfully submitted,

By 

Paul B. Stephens

Registration No.: 47,970  
MARSHALL, GERSTEIN & BORUN LLP  
233 S. Wacker Drive, Suite 6300  
Sears Tower  
Chicago, Illinois 60606-6357  
(312) 474-6300  
Attorney for Applicant